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ABSTRACT

A practicum used a new learning tool to enhance long-term retention of new vocabulary. Sixteen seventh-graders in Language Arts, who had a long-term retention mean score of approximately 40% of newly learned vocabulary, increased their long-term retention of new vocabulary by 25% (a new mean of 65% of new vocabulary). Additional objectives included enhanced short-term retention, increased ability to work with synonyms and antonyms, and student exploration and appreciation of an additional study technique. Students completed a dictionary sheet to include the new vocabulary word, a definition, two written contextual applications, synonyms, antonyms, derivatives, and additionally a visual image drawn by the student to capture the essence of the word. The visual image was the key to the practicum, since it was believed that conceptualization and creation of this image would allow students the deep processing necessary for long-term retention. Students in the target group had an improvement mean of 24.8%. All students showed improvement in long-term retention. Scores for short-term retention were scattered and offered no clear correlation with the production of the dictionaries. Students increased their ability to work with synonyms and antonyms, and viewed the experience of using visual images as helpful to the learning process. (One table of data is included; appendixes include charts of student progress, sample exams, student data, and sample dictionaries.) (SR)

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ENHANCING LONG-TERM RETENTION OF NEW VOCABULARY USING VISUAL IMAGES

by

Karen Igelsrud

A Practicum Report

Submitted to the Faculty of the Center for the Advancement of Education, Nova University, in partial fulfillment of the requirements for the degree of Master of Science.

The abstract of this report may be placed in a national database system for reference.

August 1991

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Abstract

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This practicum describes a new learning tool to enhance long-term retention of new vocabulary. In this study 16 seventh grade Language Arts students are the target group. Students currently have a long-term retention mean score of approximately 40 percent of newly learned vocabulary. The students increased long-term retention of new vocabulary by 25 percent (a new mean of 65 percent of new vocabulary). Additional objectives include enhanced shore-term retention, students' increased ability to work with synonyms and antonyms, and finally, student exploration and appreciation of an additional study technique. Students will complete a dictionary sheet to include: new vocabulary word, definition, two written contextual applications, synonyms, antonyms, derivatives, and additionally a visual image drawn by the student to capture the essence of the word. The visual image is key to this study for it is believed that conceptualizing and creation of this image will allow students the "deep" processing necessary for long-term vocabulary retention. The results indicated that the creation of a visual image does indeed aid in long-term retention of new vocabulary. Students in the target group had an improvement mean of 24.8 percent. All student showed improvement in long-term retention. Scores for short-term retention were scattered and offered no clear correlation with the production of the dictionaries. Students did increase their ability to work with synonyms and antonyms, and they also expressed the experience of using visual images as helpful to the learning process. Appendices include charts of student progress, sample exams, student data, and sample dictionaries.

Authorship Statement

I hereby testify that this paper and the work it reports are entirely my own. When it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other professionals in the field and in the hope that my own work, presented here, will earn similar respect.

Signed: _____

Karen Igelsrud

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CHAPTER I

Purpose

The target school for this practicum is in a large metropolitan area of South Florida. The school building is approximately 15 years old. The school's location is a middle-class residential neighborhood surrounded by private homes and condominiums, either owned or rented. Most students are within walking distance of the school and have come to the school from the surrounding neighborhood elementary schools.

The school faculty is comprised of one principal, 64 classroom teachers, and eight exceptional student teachers. Included in the teaching staff are teachers of ESOL (English for Speakers of Other Languages), enrichment classes (art, music, foreign languages), physical education, and BCC (bilingual curriculum content) instruction. The pupil/teacher ratio in the regular teaching program is stated in the school's 1989-1990 annual report as 22:1. However, the principal of this school confirms that typical class size for regular classes does run between 30-35:1. The

school has determined the average cost per full-time equivalent student for the 1989-1990 school year was $3,734.00 for basic programs.

The ethnic breakdown of the teaching staff is 41 percent non-Hispanic White, 25 percent non-Hispanic Black, and 33 percent Hispanic. The gender breakdown of the teaching faculty is 30 percent male and 70 percent female.

The school has recently switched from a junior high to a full-fledged middle school this year. The previous seventh, eighth, and ninth grade configuration is now sixth, seventh, and eighth--a significant shift to a younger group of students. The school is involved in implementing the middle school philosophy and has all students placed in one of the nine teams in the school.

The majority of the school population is of Hispanic heritage (86 percent). The majority of students are second generation children of middle-class Cuban families. A growing number of the Hispanic students are from Latin American countries that are experiencing domestic turmoil. The school is experiencing an increase of Nicaraguan, Columbian, and El Salvadoran children.

At this school the Stanford Achievement Test (SAT) is given to students every year in the spring. It measures mathematics computation, mathematics application, and reading comprehension. The reading comprehension scores for the seventh and eighth graders fall slightly below the fiftieth percentile.

The writer of this practicum is now in the fourth year of teaching, all of which have been at the target school. During this time the author has taught Language Arts classes (both regular and basic) to seventh and eighth graders and regular Language Arts curriculum to ninth graders. During the time of this practicum, the writer is teaching two seventh grade Language Arts classes, two sixth grade Language Arts classes, and one sixth grade Reading class. Additional roles this writer has beyond the classroom instruction are team responsibilities and advisor responsibilities. As teaming and the advisor/advisee are integral to the middle school philosophy, these additional functions and responsibilities are important to both the school and the students.

In the teaching of any curricula, one of the major objectives is to broaden and expand students' vocabulary base. In the short-term, students may

demonstrate mastery of the new vocabulary, but is there long-term retention of newly learned vocabulary?

The author has experienced this lack of long-term retention of newly learned vocabulary in the area of Language Arts. The discrepancy is presented at the time of midterm and final exam testing. Students have learned the material at the time it was presented and retain the new knowledge for the short-term, but as weeks and months pass and students are again tested on the vocabulary the discrepancy is revealed.

A review of the midterm vocabulary scores for two regular seventh grade Language Arts classes reveals that the mean score for the long-term retention was six correct answers out of 15 questions. This translates to about 40 percent long-term retention (Appendix A:42). Even with 40 percent as a mean the scores are bottom heavy with more students scoring at the low end of the scale rather than the high end. Though there are students on the high end of the scale, most students had room for improvement.

The problem is that a mean of 40 percent long-term retention of newly learned vocabulary is simply unacceptable to this author. This author would expect a mean score to fall around 65 percent. On the

instrument that was used to initially measure long-term retention, this would translate to scoring 10 out of 15 (66 percent) as opposed to six out of 15 (40 percent).

This writer was concerned how widespread this problem was with other Language Arts educators in this school. Discussion with two other seventh grade Language Arts teachers revealed that long-term vocabulary retention was on an average no more than 30 percent. An eighth grade Language Arts teacher also acknowledged average long-term vocabulary retention between 30 percent to 40 percent of newly learned vocabulary.

Discussion with other teachers helped to understand some of the reasons for this problem of long-term retention. One reason students may have problems with remembering or recalling the newly learned material is that students don't use the new material while writing. Without active use of the new material retention problems are to be expected. Also, students need multiple exposure to new vocabulary. When students are not readers outside of school, the chances of coming in contact with the new words in other contexts are remote. Without this re-exposure and reinforcement the new knowledge dissipates.

Another problem with remembering new vocabulary is that it is presented and taught in such a traditional manner (auditory) that this vocabulary is not presented to accommodate other learning styles. Most vocabulary instruction revolves around presenting: the new word, the definition, giving the word in context, and then on to the next word. There is no lingering or real manipulation of the word. Students have barely allowed themselves a chance to let the new information steep. Homework may involve writing each of the new vocabulary words in a sentence to demonstrate understanding of the new word. Students may do this and pass weekly vocabulary tests. However, there is no long-term connection to the word; there is no mental connection that will stand the test of any significant amount of time.

The target group for this study was students from two regular seventh grade Language Arts classes. The target group included 16 students, 10 females and six males. These students all shared the same teacher (the author), but may have been in one of the two seventh grade classes that the writer taught. There were eight students from each of the two classes in the target

group. Both classes received the same instruction and were included on the same lesson plan.

The students in this target group were selected because they scored 40 percent or lower on the midterm examination vocabulary section (Appendix B:44). Also taken into consideration were students that were anticipated to participate enough in the classwork and homework assignments that it could be said that they were responsible for the learned material (as opposed to students who had low scores but the scores reflect student apathy more than anything else).

This author expected that students' mean score would fall around 65 percent. As of the midterm exam, mean scores were at 40 percent. This author anticipated a 25 percent improvement on long-term vocabulary retention.

This author was seeking four outcome objectives. Fist, after a period of 10 weeks, the target group of students from seventh grade Language Arts classes would increase long-term retention of newly learned vocabulary by 25 percent, to be measured on the year end final examination.

During the 10 weeks, students in the target group would also achieve better short-term retention of newly

learned vocabulary by scoring no lower than a "C" on any weekly vocabulary test.

The third objective in this 10 week period was that the target group of students will become familiar with synonyms and antonyms of the newly learned vocabulary. Final examination questions will ask for synonyms and antonyms of the newly acquired vocabulary. Students were to also become familiar with synonyms and antonyms as synonyms and antonyms were a required part of the dictionary format.

Over the 10 week period, a final objective for the target group of students was that the students would explore a new study skill and learning tool (visual imagery) to help retain new vocabulary. Students recorded opinions on whether this tool was a useful technique. Students also had the opportunity to show their visual images to others and recognize their newly learned vocabulary in others' visual image interpretations.

CHAPTER II

Research and Solution Strategy

A major part of any English teacher's curriculum is the teaching of new vocabulary. How can a teacher know that the weekly or bi-weekly list of new words is truly being learned by the students? How can a teacher make the teaching of unfamiliar words more effective and meaningful for students? Specifically to be addressed, does the use of visual images enhance the learning of new vocabulary?

First, what is needed in the teaching of vocabulary to make the lesson effective teaching? Secondly, if learning is to take place the learning style of students must be considered, specifically, visual learners. Also to be addressed will be research done specifically in the area of imagery or visual representation in the learning of new vocabulary.

Stahl (1986) has identified the principle characteristics of effective vocabulary instruction. These three principles are to teach both definitional and contextual information, to involve students in

active processing or strive for "deep" processing (Lachman, Lachman, and Butterfield, 1979), and to give students multiple exposure to the new vocabulary.

Definitional information can be defined according to Stahl (1986:663) as:

> knowledge of the logical relationship between a word and other known words, as in a dictionary definition. In teaching, definitional information can be provided through definitions, but also through synonyms, antonyms, prefixes, suffixes, roots, classification, etc.

Contextual information is the knowledge of what the word represents and how that idea or concept of the word can change in different contexts. To truly know a word not only must the definition be known, but the word must be able to be understood in different contexts. To have students merely study definitions and not place the word in context will probably not have much meaning to the student. Demonstrating the word in several contexts should have a marked effect on the student's comprehension of the word's meaning along with the definition.

Students should also have the opportunity for the previously mentioned "deep" processing of the new word. Students are likely to remember and understand the new word if they internalize the meaning rather than deal with it on a surface or shallow level. Stahl (1986)

defines three levels of processing for vocabulary: associative, comprehension, and generation. Associative is where an association is made between the new word and a synonym, or a word and a single context. Comprehension processing is where more involvement with the previous association is utilized. Students would move to finding antonyms or manipulating the word in other ways, through using the word in sentences or classifying the new word with other words. It involves doing something beyond reciting the definition as an understanding of the word. Generation processing moves the student to using the word in new ways demonstrating the comprehension. Students can create their own sentences, have a class discussion or preferably a small group discussion where students have the opportunity to discuss the word and draw more examples from their classmates. This personal involvement with the word leads to processing more "deeply" and therefore better internalization of the new word. The deeper the processing of the word, progressing through the levels of processing, the better the effect on student comprehension. The key is that students must go beyond processing just for meaning and move to

interacting with the word through and to the step of comprehension processing.

The last principle that will positively affect the comprehension of new vocabulary is to give the student multiple exposure to the new word. With the opportunity of multiple repetition about the word's meaning and providing multiple exposure of the word in different contexts, students' comprehension of the word should significantly be affected.

Stahl (1986) also found that time devoted to instruction was significant in the comprehension of new vocabulary. Nevertheless, the principles for effective learning of vocabulary still hold even though the time devoted is relatively short or whether substantial time is devoted to the new vocabulary. It is not just the time spent, but how one spends the teaching time that is important. Time spent, whether short or long, should allow for all three of the teaching principles (definition and context, "deep" processing, and multiple exposure) to occur.

As important as effective teaching of vocabulary is, it is still only half of the equation. As conscientious as a teacher may be in the delivery of materials, also to be considered is the receptiveness

of the student. It is generally understood that students have different learning styles or preferences for receiving materials. The Dunns (1977) have broken learning styles into four elements: emotional, environmental, social, and physical. Within the physical elements of learning style, one dimension is perceptual strengths. Some students are auditory learners, some tactile or kinesthetic learners. There are also those students who are visual learners. These students need to experience what is to be learned in a visual way.

Also understood is the hemispheric difference in the brain and how the brain differentiates in terms of tasks. The left brain is associated with verbal and analytical tasks while the right brain activity is concerned with spatial or imagery activities. Some students are better with verbal or analytic material (left brain) while others are more adept with spatial or imagery tasks (right brain).

In teaching vocabulary, most material is delivered in a verbal style. While students that are visual learners can be at a disadvantage, visual learning can benefit all students. Bob McKim, a professor at Stanford University, teaches Mechanical Engineering.

He has geared his instruction around the premise of visual learning. "Visual thinking breaks you out of the mindset of language, which keeps you stuck in a certain way of seeing and expressing the world," McKim says (Stewart, 1985:47). He makes clear he doesn't expect people to do all their thinking in images. Words, logic, and numbers are indispensable, he says, especially in refining and testing an idea. Rather, images provide a rich, expressive medium for thought and complements analytical reasoning and offers quicker, more unexpected jumps and connections (Stewart, 1985).

Is imagery or visual learning an effective learning tool in teaching vocabulary? Many teachers have employed this technique with success. Ford (1988) used a strategy called "the picture box worksheet." Students were given a blank 8½" by 11" sheet of paper. In one lesson on how an affix affects word meaning students folded the paper into thirds. Using the word happy in the first box, students moved to unhappy and happiest in the second and third box. Above the word happy was a simple smiling face. Above the second word (unhappy) was a sad face. The third box contained three faces, all smiling, but with a larger face in the

middle with a broad open mouth smile (the happiest face). To teach multiple meaning of the same word, again the sheet was divided into thirds. The word was lock. The first box showed the word padlock, the second box showed a lock of hair, and the third box showed locks on a dam. The picture word box was also helpful in introducing new vocabulary. The sheet of paper was divided into sixths and each new vocabulary word was dedicated one box. The new words were landlord, braid, smudge, dread, terrace, and easel. Students completed the worksheets with the boxes labeled your landlord, braided hair, a smudge, something you dread, and an easel. The emphasis of this tool was not on artist output, but rather on the student being able to connect between the new and the known. Ford states that this activity requires active involvement by the student and focuses on the relationship between words.

Owsley (1989) also used student illustration as a learning technique. She found the application especially useful in content area vocabulary. The activity is patterned after the current popular drawing games; simple, quickly drawn illustrations that reveal the new word. She states that this stimulus leads to

ownership of the words for students. Students are given a list of five to 10 new vocabulary words in class. The definitions are given and the meanings discussed. Students are then encouraged to discuss the words with their parents and friends for homework. The following day the teacher writes the words on 3" by 5" cards. Students are then divided into groups of approximately six students per group. Two students in each group are selected as the illustrators. The two illustrators view the first card and one of the students draws to elicit a correct guessing of the word from among the students in the group. The illustrators may not communicate verbally with the group, nor may they use letters or numbers. This first guessing session lasts for 30 seconds. If the word is not correctly guessed in the first round then the illustrating switches to the other designated illustrator. Illustrators are allowed to confer privately once the switch has been made between them. If the word is still not guessed, either illustrator may draw for the third and final round. During the guessing students are encouraged to participate in thoughtful questioning as previously modeled by the teacher. Whether the word is correctly guessed or not,

discussion of the word and the drawings are done after each word. Students discuss how the illustrations could have been more clear or what it was about the drawing that made it easy to understand. This discussion helps in clarifying and defining the word and its meaning. It was suggested that teachers model some of the simple drawings that students can use, such as stick figures and abbreviated designs. As students relax and begin to enjoy the game they become active learners of vocabulary.

Hill (1980) was concerned about the monotonous and tedious nature of assigned vocabulary words and the artificial and boring nature of the exercises. In working with advanced placement twelfth graders, students always learned their vocabulary lists for their tests, but rarely did they use the new words in their own writing. As an alternative to the standard vocabulary test, students were permitted to illustrate or artistically interpret the words. Many students were skeptical at first, reminiscing about the days in elementary school. The first week only one student handed in an illustrated assignment. However, after several weeks many students had chosen the option. Students took terms that were foreign to them and

placed the meaning in a context that they already knew. Through their interpretation students became more sensitive to a deeper understanding of the words. Students eventually began to really play with the words adding a satirical twist. Students' interpretations included musical interpretations, one done in needlepoint, and a movie acted out by students about the words. Eventually the artistic interpretations were shared with the class before the vocabulary tests. The responses were enthusiastic. What was otherwise a dull task of learning the new vocabulary had now become an enjoyable creative outlet for students. The learning of new words had become more meaningful for students.

Goldstein (1986) utilized comics and cartoons as a vehicle for introduction of new vocabulary. Comics and cartoons were reproduced for overhead presentation. Many people assume that cartoons and comics offer only simple vocabulary, but this was not the case. Difficult words were common in cartoons and comics. Class discussion revolved around the humor in the cartoons and comics and then focused on the particular new vocabulary word. Also included was the use of figurative language and colloquial expressions.

Students recorded their impressions in notebooks. Students competed as to who could collect comics or cartoons with the most difficult words. Puns were another source of vocabulary enrichment. Though the teacher used this as a class activity only once or twice a week, students were constantly on the lookout for comics and cartoons that contained new words. Bulletin boards were created with the comics and cartoons that students found and also with original student creations.

Smith, Stahl and Neel (1987) conducted research on the usefulness of imagery as a learning tool in the classroom. The authors were searching to find if imagery would have an added recall effect for students learning new vocabulary. The purpose was to find if adding imagery and definition for new words was more effective for student learning rather than providing simple definitions for new words, or providing definition and a sentence demonstrating the word in use. The subjects of the research experiment were college students in an upper level developmental reading course. The group consisted of 142 students, taught by two professors with each professor having three experimental groups. Researchers created a word

list form The Living Word Vocabulary (Dale & O'Rourke, 1981). The words chosen were from the thirteenth grade level and were listed as unknown to more than 50 percent or more of college freshmen in the Dale and O'Rourke sample. Words that could be easily divided or understood by structural analysis, foreign words, and technical terms were deleted. The list was then given to three college professors for them to choose 50 words that they felt were of the most value to college students. From this selection of the three professors 50 words were randomly chosen. The researchers used the definitions for these words from The Living Word Vocabulary at the thirteenth grade level. A typical sample from the list:

livid: enraged

redolent: fragrant

tumid: swollen

caravel: a sailing ship

ostensible: apparent

To confirm that these chosen words were indeed unknown by the majority of the sample, a final recognition test was administered. Leaving the scores to chance the test results would have been 25 percent (random guessing). The mean score was 36 percent, and

the researchers deemed that the words were indeed unfamiliar to their population sample.

For each of the words the researchers created a sentence and drawing to go along with the definition. The drawings were simple visual interpretations of the sentences. At the beginning of each class period each class was given five words per day. Depending on which group the students were in would determine which treatment would be received. Group One received only the definition. Group Two received the definition and the word used in a sentence. Group Three received the definition, the word used in a sentence, and the drawing as a simple visual representation of the sentence. Students were asked to keep these handouts in a notebook to use at a later time for studying. Ten class sessions were used for all the words to be distributed to the students. On the day of the eleventh session students were given an announced exam on the words. Each word appeared on the test and students were to pick the correct definition from among four possible choices. The students' notebooks were collected to verify that they indeed did follow the format. After two weeks students were given another

posttest (the same test) so that long-term effects could also be measured.

The results of the posttests showed different results. The first posttest which was administered on the eleventh class day showed no significant difference between the three groups. Again this was an announced and expected test. Researchers were not surprised at this finding because all students were expecting the test and were motivated to study. In the second posttest which was administered two weeks later and was unannounced, the mean scores were progressively stronger with each treatment additive. Treatment Group Three performed significantly better than treatment Group One, Group Three receiving definition, sentence, and picture, compared to Group One which had received only definition. Therefore imagery did produce improved long-term memory for the vocabulary items in this study.

A significant difference between the last study mentioned and other examples of teachers practicing the use of visual representation in the classroom is that in the last study cited the visual representations were created by the researchers. The other teachers had let students create their images and pictures. Does

allowing the students to create the image in their own minds and transfer their own images on paper make a difference? Does the student creation add some ownership for the student? This must be addressed in further research. However, the connection between new vocabulary and visual representations of the new information does seem to be an effective way to teach new words. The concern is to teach vocabulary effectively as outlined by Stahl's three teaching principles (definition and context, "deep" processing, and multiple exposure). The practice of visual representations of new vocabulary does seem to accommodate all three principles. The other concern besides the delivery or teaching is the receptiveness of the student. Using visual representations does afford the opportunity to reach those students who learn better visually or tend to process information with the right hemisphere of their brain (most teaching is geared towards the left brain student, the verbal learner). It appears that using visual representations in the classroom as a teaching technique can be an effective teaching method in the instruction and learning of new vocabulary.

This author used strategies of previously stated authors. Stahl's (1986) three teaching principles are all accommodated in the dictionary page that students were required to produce. Like Ford (1988) the picture box idea was used at the bottom of the dictionary page helping students connect the new with the unknown. Owsley's (1989) structured small group activity with visual images were similar to an activity that this author did in class. Based on the television show Win, Lose, or Draw students played with the new vocabulary words by drawing on the board and the rest of the class tried to guess what word was being drawn. Hill's (1980) alternate testing method of allowing visual images or any artistic interpretation as an exam was employed on two of the weekly exams as extra credit questions.

CHAPTER III

Method

As previously discussed, students needed three requirements to learn new vocabulary. First, the new words were introduced with definition and in context. Second, there was multiple manipulation or application of the new vocabulary. Third, students had the opportunity for "deep processing." It was this author's strategy to provide all three elements with the crucial and unique technique of employing visual images as part of the learning process.

Students had the task of making a dictionary sheet on each of the new vocabulary words (Appendix C:46). The sheet began at the top with the new word. Students copied the word from the board as well as a teacher (author) provided definition. The teacher discussed the definition and used the word in context citing several different examples. At this point synonyms, antonyms, and derivatives were discussed. This was the extent of teacher provided information. Students had the responsibility of adding two sentences using the

word or a derivative of the word. One of the sentences was to be copied from the reading selection from which the new vocabulary has been chosen. The final responsibility of the student was to visually represent this new word at the bottom of the dictionary page.

The choice of vocabulary was from the reading selections that are part of the curriculum Appendix D:51). The new words were always presented in context, not a random list of new vocabulary words, but words pulled from reading selections. Students were given 10 words at a time in three installments for a total of 30 words. Students were required to turn in a dictionary package as a graded assignment. Students had approximately five days from presentation of the new vocabulary to expected completion of the dictionary package.

It was thought by this writer that the key to the dictionary sheets was the visual images. Aside from the visual images, the balance of the package was the traditional exploration and application of new vocabulary. The requirement of visual images was the unique element. The fact that students had to conceive and form an image and convey that on paper allowed for

"deep processing." The time it took and that students were forced to linger over the new meaning gave the opportunity for "deep processing." Students were encouraged to, ". . . do a nice job on the pictures." Colored pictures were encouraged and yet masterpieces were not expected. Students were told that the word should be able to be guessed by anyone in the class from looking at the picture. The longer and more involved learners became with the images, the "deeper" the processing.

All of the class participated in the creation of the dictionaries, while only the target group of students was of interest to this study. It was anticipated that the target group of students would complete the dictionaries as required, for without doing the dictionaries, no improvement was anticipated. Some class time was devoted to allowing students to complete the dictionaries and to share picture ideas with other students.

Over the 10 week period, students were introduced to 30 new vocabulary words. In this 10 week time table, new words were introduced during week one, week three, and week five (enough time had to pass between the last words and the final exam to measure long-term

rather than short-term retention). Students were given 10 new vocabulary words at two week intervals.

Within each two week interval students produced the dictionary sheets for the new vocabulary and were given an exam on the newly learned vocabulary (Appendix E:53). As previously stated, one of the objectives was that students would score no lower than a "C" on the weekly vocabulary tests. Measurement of long-term retention was taken at the end of the 10 weeks in the form of the final exam vocabulary section. Students had to have enough time away from the new vocabulary to insure that the achievement being measured at 10 weeks was indeed long-term retention.

Records were kept on the target students as to completion and grades on dictionaries, grades from weekly vocabulary tests, and the score on the final exam's vocabulary section. Students' opinions were also asked at the end of the final exam on the effectiveness of the visual images. On a scale of one to ten students were asked to rate the helpfulness of the visual images in remembering the previously learned vocabulary.

Students were monitored regarding completion of the dictionaries. Students were given the word,

definition with discussion, and several contextual references. Students were then told the dictionary would be due sometime after the completion of the reading selection (usually about five days later). Students copied the sentence from the reading, where the new vocabulary appeared. This was one of the two contextual sentences required for the dictionary. The reading selection was read aloud in class, and the new vocabulary was again recognized. Near the completion of the reading selection, students were given a deadline for the dictionary. Students were given a class period before the deadline to work in class on the dictionary.

In the monitoring of the first group of vocabulary and students' reactions, evaluations of vocabulary weekly test, and student dictionaries, this author found the bulk of the dictionaries turned in to be of satisfactory quality with three students in the target group not submitting a dictionary. This author was concerned about the students who did not submit dictionaries, yet felt that generous class time had been provided. The test grades on that first group of dictionaries was less than satisfactory. With the

exception of two "A's" and one "B" all other grades were "C" and below.

On the group of words for week three an adjustment was made in the sequence of teacher scheduling. The students copied the contextual sentence from the reading selection after completing the reading rather than before the reading. It was anticipated that the contextual sentence would hold more relevance with the entire context of the story for students to draw upon. Results of the dictionaries and weekly tests on the words of week three were about the same. Curiously, it was the same three students who did not turn in dictionaries with one additional student also not submitting a dictionary.

The author was becoming concerned about students (particularly the same ones) not submitting dictionaries. Two of the students admitted they had done most of the work and simply didn't finish. These students were told to submit the dictionary late for partial credit, however, the dictionaries were not submitted.

The dictionaries and test for week five again followed the same pattern as week one and week three. Again three dictionaries were missing.

However, the previous two students did submit dictionaries. There was one student in the target group who did not turn in any of the dictionaries. This student did end up failing the school year. The student's apathy for school and schoolwork went across all of their classes. This student also understood that at this point of the school year it would be impossible to earn enough credit to pass, and therefore, stopped working.

This author believes that sufficient class time was allowed for final completion of the dictionaries. Students were observed trading synonyms, antonyms, and sharing thesauruses. Students also laughed and enjoyed sharing their drawings with classmates. Students were encouraged to stay on task and complete their work, yet they were not discouraged from sharing information or creations with classmates or the teacher. It was also observed that within the class time given, several students did complete the work. Students were required to submit the dictionaries shortly after this class work time (next day or day after) so they would feel the need to finish what was started in class.

The time-table of word introduction weeks one, three, and five worked quite well. There was enough

spacing between each introduction for comfort and time for other instruction, yet with the dictionaries following right after another, students knew what was expected and the approximate time available to complete the assignment.

CHAPTER IV

Results

There were four outcome objectives for this practicum project. Students' long-term retention of new vocabulary was to be measured by the results on the final exam. It was also anticipated that students would perform satisfactorily on the weekly vocabulary tests. Another objective was for students to have a better understanding of synonyms and antonyms and their relationship to the new vocabulary. A final objective, student insight and evaluation on visual images as a learning strategy and study tool, was achieved.

The long-term retention of new vocabulary was of central concern. It was anticipated that students would be able to answer 65 percent of the vocabulary questions correctly. In examining the target group's scores (Appendix B) as a group the mean score on the midterm was 28.69. On the final exam the group's mean score was 53.53. The percent improvement in the target group was 24.8. The pool of students from which the target group was taken had a mean score of 40.60. It

was deemed that 65 percent was a satisfactory score, a difference of 25 percent. That the target group did achieve a mean improvement of 24.8 percent does indicate success, yet students' percent correct answers on the exam had a mean of 53.53 (not the 65 percent objective stated).

Looking at individual students (Appendix B) it should be noted that seven out of 16 students did reach 65 percent correct. These same seven students showed the greatest percentage in improvement (31.4 percent up to 44.2 percent). For these students it is obvious the visual images were of some aid in learning and retaining new vocabulary. Also, it should be noted that all students (with one exception as previously discussed) did show improvement from the midterm.

Students were also expected to perform with a "C" or better on weekly vocabulary tests. Over the three weekly tests, 46 tests were taken (three exams were not taken and not made-up) and half (23) of those tests were scored with a "C" or better. These results proved quite disappointing. In looking at the week-by-week chart it can be seen that there is no pattern between grades on the dictionaries and grades on the test (Appendix F:57). Of the 23 weekly tests that scored

"C" or better, 15 students had a grade of "C" or better on the dictionary for that test. So again, the grades are moving in all directions: Poor or no dictionary yet scoring well on test, nice job on dictionary yet scoring poorly on exam, to appropriate exam grades for quality of dictionary.

Students understanding and working with synonyms and antonyms was a successfully met objective. Students did incorporate synonyms and antonyms into their dictionaries (Appendix C). They were observed by the author to be in true pursuit of synonyms and antonyms and traded and supplied them with their classmates. The final exam section did employ a synonym/antonym style question and the successful results for the target group underscores their understanding of the relationship of synonyms and antonyms to their newly learned vocabulary (Appendix G:59).

Students' exploration of visual images as a learning tool and study skill was the final objective of this practicum. At the completion of the final exam students were asked to give their opinion on "... the helpfulness of drawing the pictures in your dictionaries. Did they help you learn the new

vocabulary and did they help you remember what you learned?" A previously covered rating scale was revealed. Students used the below scale to record their opinions at the bottom of the final exam. Also noted to the right of the scale is the number of students who responded to each level.

Mark Answer			Number of Students Responding
A	No help at all	(0-2)	1
B	A little helpful	(3-4)	3
C	Helpful	(5-6)	7
D	Very helpful	(7-8)	4
E	Extremely helpful	(9-10)	1

The student who stated that the visual images were of no help at all is the same student previously mentioned who had negative improvement on the final and also did not turn in any of the dictionaries. It was also observed by this author that during the class time work on the dictionaries, students were eager to share their drawing with others. Students also enjoyed playing a classroom version of the popular TV show, Win, Lose, or Draw. When there were a few minutes before the end of class, one student would draw one of the weekly vocabulary words and the class would guess the word.

Many students were eager to show off their artistic abilities, though no more eager than those in the audience who recognized the visual representation of the new word.

CHAPTER V

Recommendations

Since vocabulary is a basic part of all subject curricula, this study may be of use to all educators, not just those in Language Arts. This idea of visual images to enhance vocabulary retention is a technique that can cross all subjects.

Other educators in the immediate workplace will be introduced to this technique through department meetings or in workshops held before or after school. A copy of this study shall be made available to the regional area curricula coordinators for possible training within their departments.

With the results showing an increase in long-term retention and students' opinions to back-up the numbers, most educators should be eager for any additional tool to enhance the learning of new vocabulary.

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APPENDICES

APPENDIX A

Midterm Scores

APPENDIX A

Midterm Scores

Scores		Number of Students	Percent of Students
15/15	100%	1	1.6%
14/15	93.3%	1	1.6%
13/15			
12/15	80%	4	6.55%
11/15	73.3%	3	4.91%
10/15	66.6%	3	4.91%
9/15	60%	2	3.27%
8/15	53.3%	5	8.19%
7/15	46.6%	6	9.83%
6/15	40%	9	14.75%
5/15	33.3%	3	4.91%
4/15	26.6%	8	11.47%
3/15	20%	4	6.55%
2/15	13.3%	6	9.83%
1/15	6%	5	8.19%
0/15	0%	1	1.6%

Mean 40.60%

APPENDIX B

Target Group

APPENDIX B

Target Group

Student	Midterm Score	% Correct	Final Score	% Correct	% Improved
1	2/15	13.3	4/14	28.5	15.2
2	4/15	26.6	6/14	42.8	16.2
3	6/15	40.0	11/14	78.6	38.6
4	4/15	26.6	9/14	64.2	37.6
5	2/15	13.3	6/14	42.8	29.5
6	6/15	40.0	10/14	71.4	31.4
7	6/15	40.0	10/14	71.4	31.4
8	3/15	20.0	9/14	64.2	44.2
9	4/15	40.0	8/14	57.1	17.1
10	6/15	40.0	11/14	78.6	38.6
11	6/15	40.0	10/14	71.4	31.4
12	5/15	33.3	7/14	50.0	16.7
13	3/15	20.0	6/14	42.8	22.8
14	1/15	6.6	4/14	28.5	22.5
15	3/15	20.0	5/14	35.7	15.7
16	4/15	40.0	4/14	28.5	(11.5)
Mean		28.69		53.53	24.8

APPENDIX C

Dictionary Sample

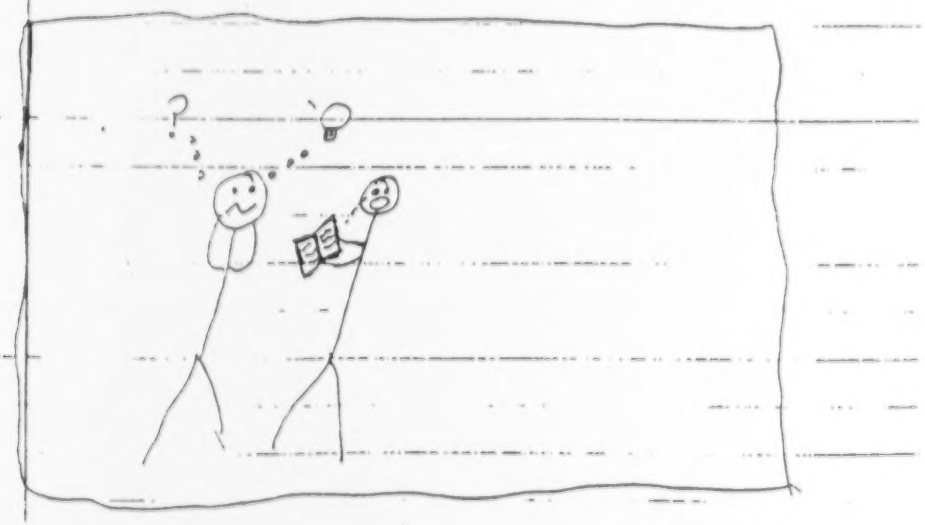
②

74/1/3 mystify = to make obscure or difficult to understand

1. When he read the word story again he was still mystified.
2. Papa looked mystified, as if he didn't know what we were talking about.

Synonym: baffle, perplex, puzzle
Antonym: assured

derivatives - mystery mysterious



mystified: to make obscure or difficult. to understand.

1. Papa would look mystified as if though he didn't know what we were talking about.

2. In math sometimes mrs. Salmon makes it mystified.

Synonym: baffle, perplex, puzzle.
Antonym: clearly.
Derivative: mystery., mysterious.

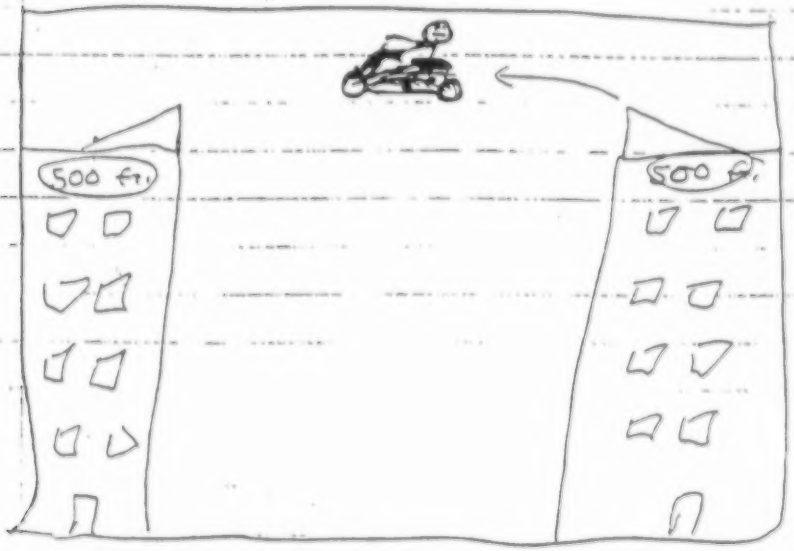
Drawing

8/2/3 defiant = ① full of challenge to something considered impossible
② to boldly refuse to conform or yield

① The brave dare devil was defiant to jump the tall building.
② Mr. Kemp stood up, too, as Beppe, his arms folded across his chest, stood facing Ennio and Giovani defiantly, shaking his head.

Synonym: oppix., challenge, brazen
Antonym: meek

Derivative: defy, defiance

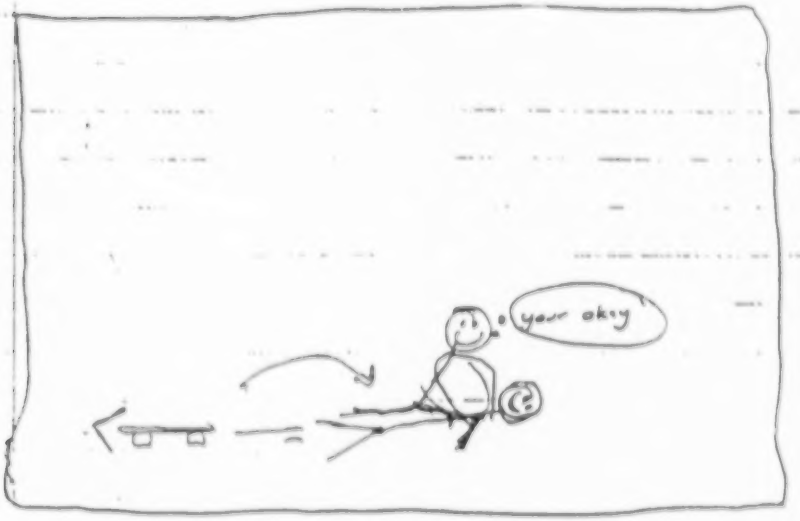


77/2/13 relieve = ⊕ to free from pain, discomfort, or distress
⊖ to give aid or help

1. I was relieved to hear my friend was O.K. after the accident.
2. I thought the ball of the record was stuck, and without knowing why, I was kind of relieved.

Synonym: assuage, ease
Antonym: inflict

Derivation - relief, ---, relieved



APPENDIX D

New Vocabulary

APPENDIX D

New Vocabulary

Week One

noble	futile
uncanny	persevere
gingerly	pessimist
slaughter	trifle
indignant	writhe

Week Three

humility	meek
antisocial	animosity
solemn	oppression
envy	exile
intolerance	brazen

Week Five

parlor	relieve
mystified	commute
embrace	defiant
astonishment	hover
import/export	mutter

APPENDIX E

Weekly Exams

APPENDIX E

Weekly Exam

Name: _____

"The Noblest Instrument"

1. A person can (writhe) in pain or out of embarrassment.

2. I am much too busy to be bothered with (trifles).

3. The emergency room physician said that any attempt to revive the patient was (futile); the injuries were fatal.

4. The antonym for reckless handling (gingerly).

5. Because she thought her cause was (noble) she was determined to (persevere) even if it meant going all the way to the Supreme Court.

6. "Can you believe who I bumped into on vacation in Paris? My next-door neighbor--it was (uncanny)!!"

7. Don't be (pessimistic), buy a Lotto ticket.

8. It was the U.S. government's policy to (slaughter) Native American (Indians).

9. The President became (indignant) over some of the personal questions asked at the press conference.

---

1. noble	6. futile
2. uncanny	7. persevere
3. gingerly	8. pessimist
4. slaughter	9. trifle
5. indignant	10. writhe

Extra Credit: Illustrate either word in answer #5

Grading Scale

-1	A
-2	B
-3,4	C
-5	D
-6	F

APPENDIX E

Weekly Exam

Name: _____

"The Strangers That Came to Town"

1. Mr. Duvitch felt no (animosity) towards Tom and Andy even though they ruined his fish.

2. The opposite of being conceited would be to have (humility).

3. The neighbors assumed the Duvitches were (antisocial) because they didn't mingle.

4. The story shows that people have great (intolerance) for people who are different from themselves.

5. A synonym for shy is (brazen).

6. The antonym for answer #5 is (meek).

7. Tom and Andy were (exiled) to the pond.

8. The Duvitch children were (solemn)-eyed.

9. The duvitches and their ancestors probably faced centuries of (oppression).

10. A synonym for jealousy is (envy).

1.	humility	6.	meek
2.	antisocial	7.	animosity
3.	solemn	8.	oppression
4.	envy	9.	exile
5.	intolerance	10.	brazen

Illustrate your answer for #9 for extra credit.

Grading Scale

-1	A
-2	B
-3,-4	C
-5	D
-6	F

APPENDIX E

Weekly Exam

Name: _____

"The Song Caruso Sang"

1. What does parlor have to do with the story?
2. What is a synonym for mystify?
3. Use embrace in a sentence as mental action.
4. Tell me something that is astonishing.
5. Pick a product and use it in a sentence to explain the difference between import/export.
6. How is hovering different from flying?
7. Tell two things commuters can do while commuting.
8. A mutterer is a _____.
9. (Someone in this class) showed defiance by saying, "_____."
10. Tell me about a time when you were relieved.

Note: This exam was given orally.
Students were required to answer the questions on a sheet of paper.

Grading Scale

-1	A
-2	B
-3,-4	C
-5	D
-6	F

APPENDIX F

Weekly Dictionary/Exam Results

APPENDIX F

Weekly Dictionary/Exam Results

STUDENT	#1 DICT/TEST	#2 DICT/TEST	#3 DICT/TEST	% CORRECT ON FINAL EXAM	% IMPROVEMENT FROM MIDTERM
1	D/F	D/F	C/F	28.5	15.2
2	A/D	C/B	*/F	42.8	16.2
3	*/C	*/C	C/A	78.6	38.6
4	C/D	C/C	C/D	64.2	37.6
5	B/B	*/C	B/D	42.8	29.5
6	A/A	B/D	D/A	71.4	31.4
7	B/F	A/F	A/B	71.4	31.4
8	B/C	C/C	C/B	64.2	44.2
9	C/F	B/F	C/D	57.1	17.1
10	*/A	*/A	C/C	78.6	38.6
11	D/C	F/F	C/D	71.4	31.4
12	C/C	C/F	A/C	50.0	16.7
13	F/D	C/F	*/F	42.8	22.8
14	B/C	*/**	A/**	28.5	22.5
15	B/F	C/B	B/C	35.7	15.7
16	*/D	*/F	*/C	28.5	(11.5)

* Did not turn in dictionary
** Did not take test

APPENDIX G

Vocabulary on Final Exam

APPENDIX G

Vocabulary on Final Exam

Choose the best answer from the column on the right. THIS IS NOT MATCHING. An answer may be used more than once.

Gingerly	A. useless, pointless
Futile	B. of little importance
Persevere	C. of high character
Trifle	D. to handle roughly
	E. none of these

Brazen	A. a form of anger
Animosity	B. bold
Solemn	C. shy about one's accomplishments
Envy	D. jealous
Humility	E. none of these

Mystified	A. challenge of authority
Mutter	B. take hold of
Defiant	C. untruthful
Hover	D. puzzled
Embrace	E. none of these